In the Claims:

Please cancel Claims 1-6.

Please amend Claims 7, 9, 11-14, 17 and 18 as follows:

1. (Canceled)

2. (Canceled)

3. (Canceled)

4. (Canceled)

5. (Canceled)

6. (Canceled)

7. (Currently Amended) A method to identify a compound that inhibits wild type aggrecanase enzymatic activity comprising the steps of:

contacting a test compound, a truncated aggrecanase, and a peptide less than 40 amino acids in length wherein the peptide comprises a cleavage site between a glutamic acid on an N-terminal side of the cleavage site and a non-polar or uncharged amino acid residue on a C-terminal side of the cleavage site and wherein the peptide is cleavable by said truncated aggrecanase; and

detecting cleavage of the peptide wherein inhibition of peptide cleavage in the presence of a test compound indicates compound inhibition of wild type aggrecanase enzymatic activity.

8. (Original) The method of claim 7 wherein the method is conducted in a single reaction vessel.

9. (Currently Amended) The method of claim 7 wherein the wild type aggrecanase enzyme is selected from the group consisting of aggrecanase-1 and aggrenase-2.

10. (Original) The method of claim 7 wherein the peptide is selected from the group consisting of SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO: 5, SEQ ID NO:6 and SEQ ID NO:7.

11. (Previously Amended) The method of claim 7 wherein the peptide further comprises a detectable label selected from the group consisting of ^{125}I, ^{131}I, ^{3}H, ^{14}C, ^{35}S, ^{32}P, ^{33}P, a fluorescent dye, and a colorimetric indicator.

12. (Previously Amended) The method of claim 7 wherein the peptide further comprises a fluorophore and a quencher or acceptor located at opposite ends of the cleavage site of the peptide.

13. (Currently Amended) The method of claim 7 wherein the truncated aggrecanase is in a cell expressing the truncated aggrecanase.

14. (Currently Amended) A method to detect the ability of a compound to inhibit wild type aggrecanase-1 or -2 enzymatic activity comprising the steps of:

contacting a test compound, a truncated aggrecanase secreted by a cell, and a peptide having an amino acid sequence selected from the group consisting of SEQ ID NO:3 and SEQ ID NO:4;

incubating the compound, the truncated aggrecanase and peptide to permit enzymatic cleavage of the peptide;

measuring enzymatic cleavage of the peptide;

wherein said measuring involves determining presence or absence of cleavage of said peptide.

15. (Original) The method of claim 14 wherein the peptide comprises a detectable label selected from the group consisting of ^{125}I, ^{131}I, ^{3}H, ^{14}C, ^{35}S, ^{32}P, ^{33}P, a fluorescent dye, or a colorimetric indicator.

16. (Original) The method of claim 14 wherein the peptide comprises a fluorophore and a quencher or acceptor located at opposite ends of the cleavage site of the peptide.

17. (Currently Amended) A method to identify a compound capable of inhibiting wild type aggrecanase activity comprising the steps;

providing a peptide comprising an affinity moiety, an amino acid sequence selected from a group consisting of SEQ. ID NO:3 and SEQ ID NO:4 and a detectable label, said affinity moiety and label located on opposite sides of a cleavage site encoded by the amino acid sequence;

contacting the peptide with an affinity capture coated solid phase support for sufficient time to bind a portion of the peptide;

washing the support to remove unbound peptide;

contacting a solution comprising a test compound and functional enzyme with the peptide bound solid phase support for sufficient time to allow enzymatic cleavage of the peptide, thereby releasing the peptide and detectable label into the solution; and

measuring changes in the quantity of the detectable label as a result of compound modulation of expected enzymatic function.

18. (Currently Amended) The method of claim 17 wherein the enzyme is selected from the group consisting of wild type aggrecanase-1 and -2.

19. (Original) The method of claim 17 wherein the peptide comprises a detectable label selected from the group consisting of ^{125}I, ^{131}I, ^{3}H, ^{14}C, ^{35}S, ^{32}P, ^{33}P, a fluorescent dye, or a colorimetric indicator.

20. (Currently Amended) The method of claim 7, wherein said truncated aggrecanase lacks a ~~position~~ portion of a complete native sequence.

21. (Currently Amended) The method of claim 7, wherein said truncated aggrecanase is selected from the group consisting of SEQ ID NO: 8 and SEQ ID NO:9 ~~and homologues thereof.~~